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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/031,564	01/22/2002	Wen Xu	112740-520	6863
29177	7590	09/21/2004	EXAMINER	
BELL, BOYD & LLOYD, LLC			DILDINE JR, R STEPHEN	
P. O. BOX 1135			ART UNIT	PAPER NUMBER
CHICAGO, IL 60690-1135			2133	

DATE MAILED: 09/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/031,564

Applicant(s)

XU, WEN

Examiner

R. Stephen Dildine

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 16-30 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 16, 17, 21, 22 and 27 is/are rejected.
- 7) ☒ Claim(s) 18-20, 23-26, 28-30 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 22 January 2002.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: ____.

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Specification

The specification and claims are objected to under 37 CFR 1.52 (B)(1)(ii) for failure to be accompanied by a statement that the translation is an accurate translation of PCT/DE00/01253 as required by 37 CFR 1.52 (B)(1)(ii).

The listing of references in the specification at page 2, lines 6-7 page 3, lines 2-5 and 15-18 and page 10, lines 9-11 is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A (1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

The disclosure is objected to because of the following informalities: The specification fails to provide a description of Fig 1B. References to "Fig. 1" in the specification only provide a description of Fig. 1A.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 27 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite in that it fails to point out what is included or excluded by the claim language. This claim is an omnibus type claim in that it comprises a single element (a coder) that performs certain recited tasks.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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Claims 16-17 and 27 are rejected under 35 U.S.C. 102(a) as being anticipated by Taguchi et al. (JP 07254861 A). A comparison of applicant's claim 16 with Taguchi et al. follows:

Applicant's Claim 16	Taguchi et al.
Establishing a plurality of known dummy bits	"as shown in drawing 1 A, the dummy bit 22 of the fixed pattern (for example, wholly -1) of die-length m is inserted at suitable spacing to the transmit information sequence 21 of a transmitting side" (Section "EXAMPLE", paragraph [Example])
inserting said dummy bits on both sides of information-carrying bits	"is inserted at suitable spacing to the transmit information sequence 21 of a transmitting side" (Section "EXAMPLE", paragraph [Example])
before channel coding	"Convolutional-code-ize the information sequence in which the dummy bit was inserted, and it transmits" (Claim 3)

As for the recitation of applicant's claim 17, this inherently happens when Taguchi et al. inserts dummy bits into his digital data prior to Reed-Solomon coding. As for the recitations of claim 27, Taguchi et al. teaches a means (their disclosed system) which inserts previously known data (dummy) bits at predetermined positions of a data stream to be encoded.

Claims 16-17 and 27 are rejected under 35 U.S.C. 102(e) as being anticipated by Yoshida (6,024,485). A comparison of applicant's claim 16 with Yoshida follows:

Applicant's Claim 16	Yoshida
Establishing a plurality of known dummy bits	dummy bits, e.g. "0", are inserted (Column 9, lines 65-66)
inserting said dummy bits on both sides of information-carrying bits	In FIG. 8, 30 is a compressed code part ... 33 is a dummy symbol inserted (Column 9, lines 55-56)
before channel coding	see Fig. 6 of Yoshida

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As for the recitation of applicant's claim 17, this inherently happens when Yoshida inserts dummy bits into his digital data prior to Reed-Solomon coding. As for the recitations of claim 27, Yoshida teaches a means (his disclosed system) which inserts previously known data (dummy) bits at predetermined positions of a data stream to be encoded.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshida as applied to claim 16 above, and further in view of Scott (5,517,508). Scott states at column 1, lines 12-29 "The transmission and reception of digitized data is common place in today's high technology society. Computer networks, microprocessors, telephone and telephone communication systems, and financial transactions all rely on the accurate transmission of digital data between different locations. The transmission of accurate facsimile, data, telephone, and credit card authentication and verification transactions all rely upon digital transmissions in which any errors in the transmission are detected, and optimally corrected, to prevent potentially costly errors from occurring. A variety of error detection and correction circuits, methodologies and protocols have been used in the past. For example, the use of parity bits, Hamming codes, Fire codes, Convolutional Codes, Reed-Solomon Codes, and the like, have been used in a variety of different systems over the years (see for example, Mann Young Rhee, "Error Correcting Coding Theory", McGraw-Hill Publishing Company, 1989, and U.S. Pat. No. 4,435,807)", therefore it was well known in to those skilled in the art at the time of applicant's invention to use Reed-Solomon Codes (such as that of Yoshida) in the transmission of digital voice signals (e.g. mobile telephony) in order to "prevent potentially costly errors from occurring".

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Allowable Subject Matter

Claims 18-20, 23-26 and 28-30 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The cited references fail to show or teach one of ordinary skill in the art at the time of applicant's invention to apply the method to a systematic code where the dummy bits are not transmitted (claim 18), applying the method to a system having code puncturing (claim 19 and 23-26), dividing information bits into a plurality of classes (claim 20 and 28), nor using Viterbi decoding (claims 29-30).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Iwamura (JP 04-181833) is cited because the English abstract thereof provided by Japan Patent Office states "a dummy bit is inserted before and after the code series". The two publications by Wen Xu et al. are cited to show publications of the subject matter of claims 16-19, 21-27 and 29-30. Although authored by differing entities, these two publications are not available as references under 35 U.S.C. 102(a) because they were published after applicant's effective filing date. Applicant's claims 20 and 28 differ from the disclosures in these two publications by their recitation of dummy bit insertion being based upon the classification of information carrying bits into classes.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to R. Stephen Dildine whose telephone number is 703-305-5524. The examiner can normally be reached on M, Tu, Th, F 5:55 am to 4:25 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert Decady can be reached on 703-305-9595. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



R. Stephen Dildine

R. Stephen Dildine
Primary Examiner
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